Smart Growth and Transportation

New York State Department of Transportation
Statewide Planning Bureau

Purpose

Smart Growth will be the result of a community's "Vision" taking shape through hundreds if not thousands of decisions and actions, often over many years.

This presentation is intended to provide municipal planning and supervisory board members, municipal officials and the public with a general understanding of Smart Growth and its relationship to transportation. What is it? Why is it important? How does it affect your community and your life? What are the principles of Smart Growth? What are the basic tools?

Smart Growth and Transportation Contents

8/28/2012

Introduction: Land Use and Transportation Are Inextricably Linked

Between 1960 and 2000, the area of urbanized land around Syracuse doubled while population increased by only 8 percent. Population density in the urbanized area had almost halved. This pattern of growth, sprawl, is replicated in most, if not all, urbanized areas in New York.

Smart Growth attempts to redress and to alleviate the many problems associated with sprawl, including unnecessarily high public and private costs, environmental degradation and a reduction in our overall quality of life.

URBAN DEVELOPMENT IN ONONDAGA COUNTY
1960 - 2000
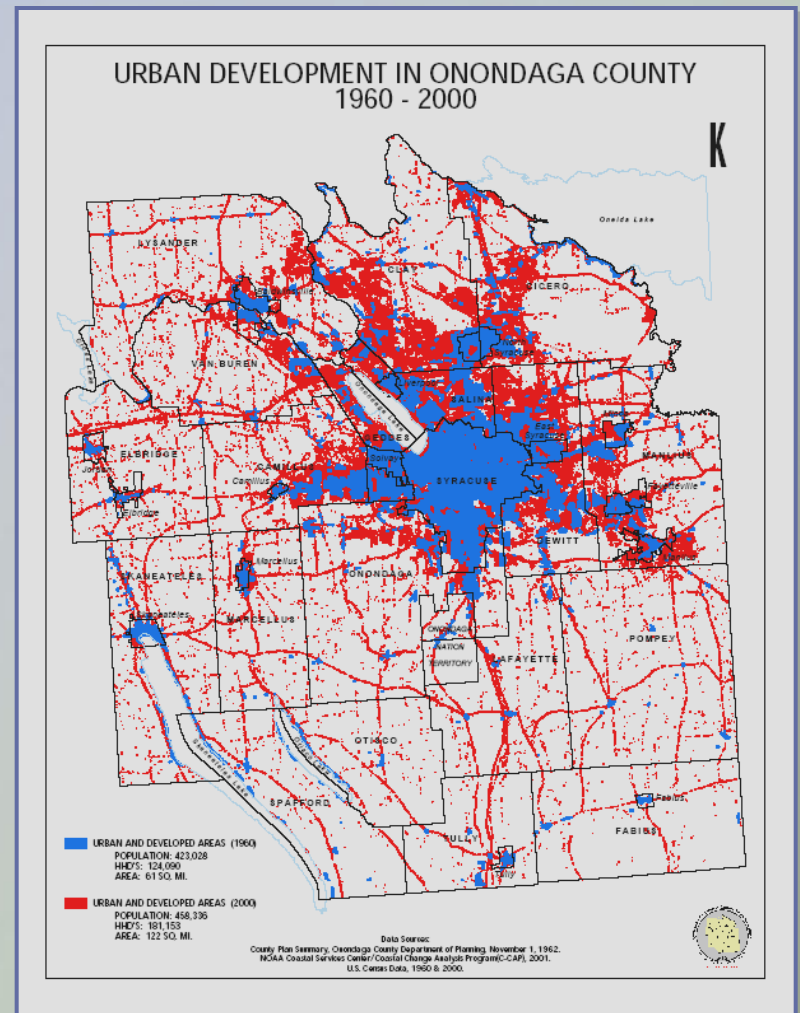
Land Use and Transportation Are Inextricably Linked

Sprawl isn't solely an urban or suburban phenomenon. Strip commercial development and the establishment of disconnected residential subdivisions can also reduce the economic viability and overall quality-of-life of rural villages.

Land Use and Transportation Are Inextricably Linked

The pattern of growth we've experienced over the last 60 years has impacts that we now recognize as undesirable: traffic congestion, environmental degradation, high public and private costs and a diminished quality of life.

School

Home

Shops

Recreation

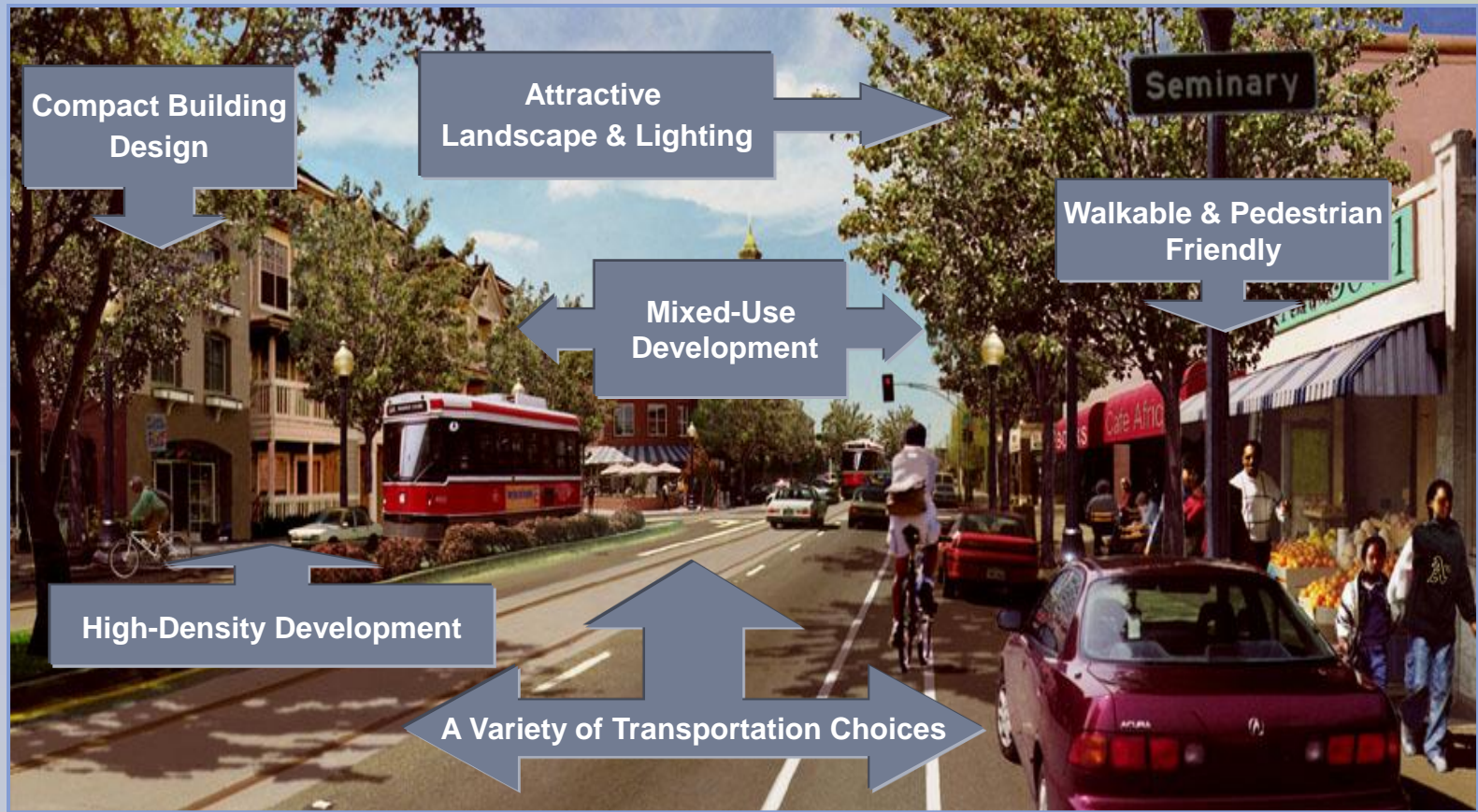Workplace
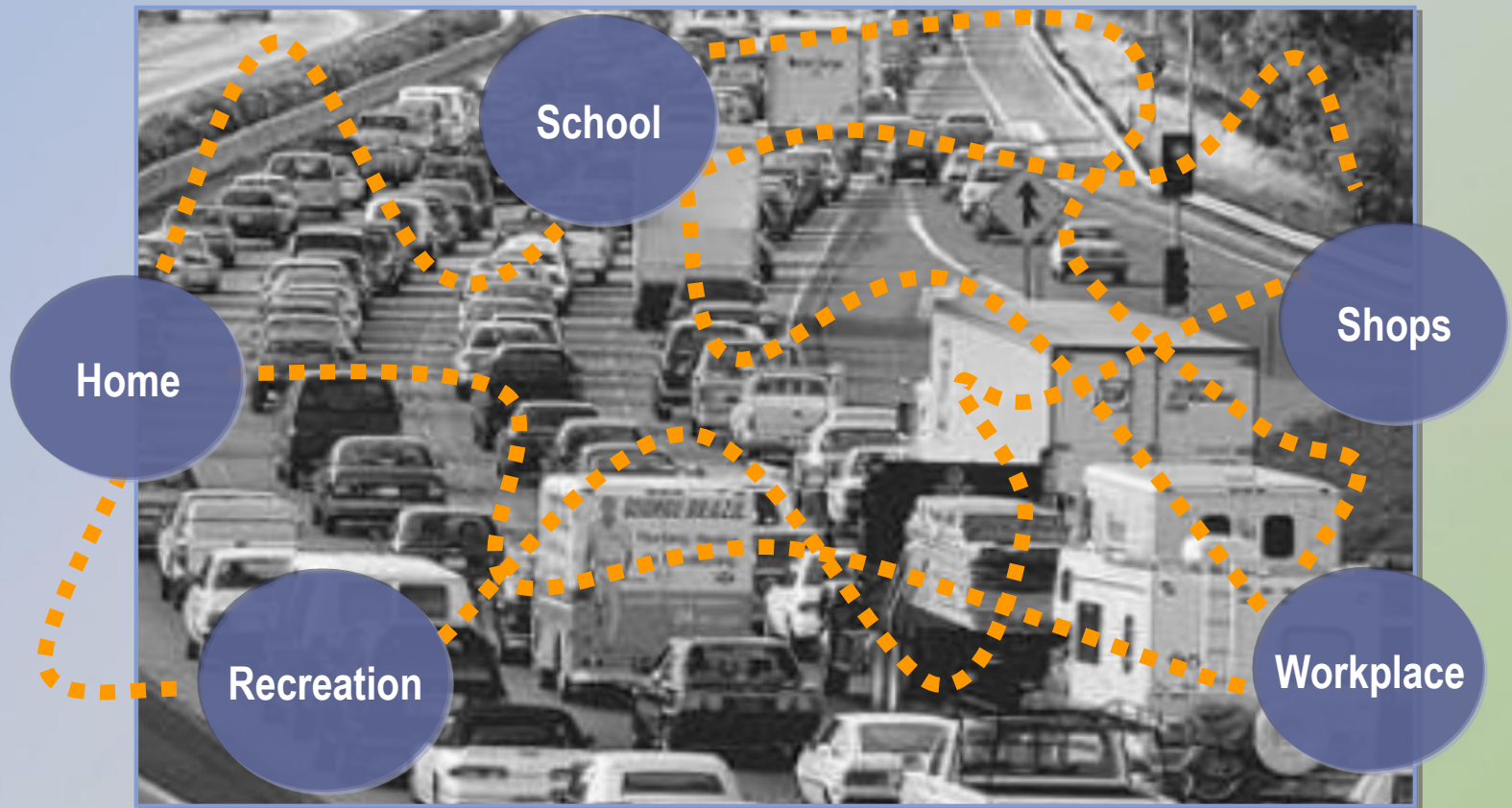
Smart Growth…Smart Choice

If we're going to reduce these problems, provide our children with a better life, and be competitive in the global economy we have to ensure that public investments and private developments provide the greatest possible benefit.

We need to plan for development that eases our tax burdens, that minimizes our traffic problems and that reduces pollution and the consumption of open space and critical resources. We seek growth that enhances our entire community … Smart Growth.

Smart Growth Principles

Smart Growth will be different in each community. At the same time, almost all Smart Growth plans share some common principles.

Compact Building Design

Attractive Landscape & Lighting

Walkable & Pedestrian Friendly

Mixed-Use Development

High-Density Development

A Variety of Transportation Choices

Smart Growth Principles

➤ **Preserve open space, farmland and critical environmental areas**

➤ **Strengthen and direct development towards existing communities**

➤ **Take advantage of compact building design**

➤ **Promote mixed land uses**

➤ **Provide a range of housing opportunities and choices**

➤ **Create walkable neighborhoods**

➤ **Provide a variety of transportation choices**

➤ **Make development decisions predictable, fair and cost-effective**

➤ **Encourage community and stakeholder collaboration**

➤ **Foster distinctive, attractive communities with a strong sense of place**

Source: Various including the National Governor's Association, the State of Maryland, the US Environmental Protection Agency, the Boston Metropolitan Area Planning Council and others.

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Smart Growth Principles

Preserve Open Space, Farmland and Critical Environmental Areas

Smart Growth!
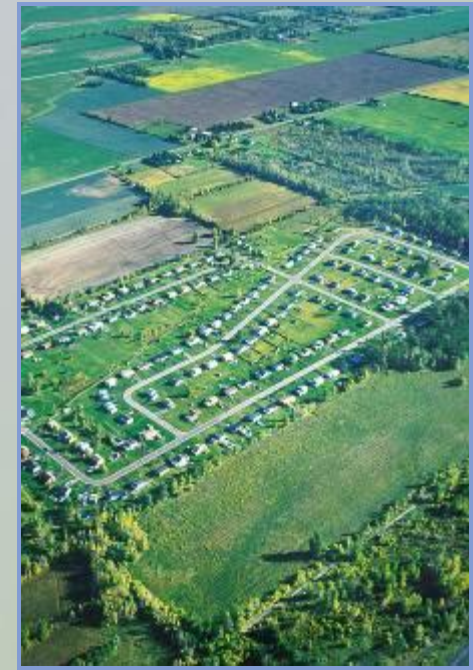
Smart Growth?

Smart Growth Principles

Strengthen and Direct Development Toward Existing Communities

Smart Growth!

Smart Growth?

Smart Growth Principles

Take Advantage of Compact Building Design

Smart Growth!

Smart Growth?

Smart Growth Principles

Promote Mixed Land Uses Including Homes, Businesses, Schools and Green Space

Smart Growth!

Smart Growth?

Smart Growth Principles

Provide a Range of Housing Opportunities and Choices

Smart Growth!

Smart Growth?

Smart Growth Principles

Create Walkable Neighborhoods

Smart Growth!

Smart Growth?

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Smart Growth Principles

Provide a Variety of Transportation Choices

Smart Growth!

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Smart Growth?

Smart Growth Principles

Make Development Decisions Predictable, Fair and Cost-Effective

Smart Growth!

Smart Growth?

Smart Growth Principles

Encourage Community & Stakeholder Collaboration

Smart Growth!

Smart Growth?

Smart Growth Principles

Foster Distinctive, Attractive Communities with a Strong Sense of Place

Smart Growth!

Smart Growth?

Smart Growth: Core Issues

The essential problem is that current development patterns create transportation demands we cannot sustain.

Smart Growth: Core Issues

Current development patterns separate homes, schools, businesses and shops, forcing people to drive frequently, farther and more often. Smart Growth allows alternative choices through mixed uses and density.

Smart Growth: Core Issues

Current development patterns can limit our ability to walk, bike or take transit. Smart Growth provides more transportation choices.

Smart Growth: Core Issues

Current development patterns tend to require sizable facilities designed specifically for cars and trucks. The initial sewer, water and road costs are large in respect to the development and they enable and create long-term taxpayer costs.

Impacts Stemming From the Current Patterns of Development

The impacts of the transportation system required to serve current development patterns have manifest and wide-ranging personal, local, national and global consequences. The implications of these impacts for our current and future well-being cannot be understated.

Traffic Impacts

> **Commuters in residential households in New York State travel a total of more than 95 billion miles per year.**
> Source: 2001 National Household Travel Survey Data

> **In 2006, there were 270,700 road accidents involving 484,998 vehicles and resulting in 1,433 fatalities in New York.**
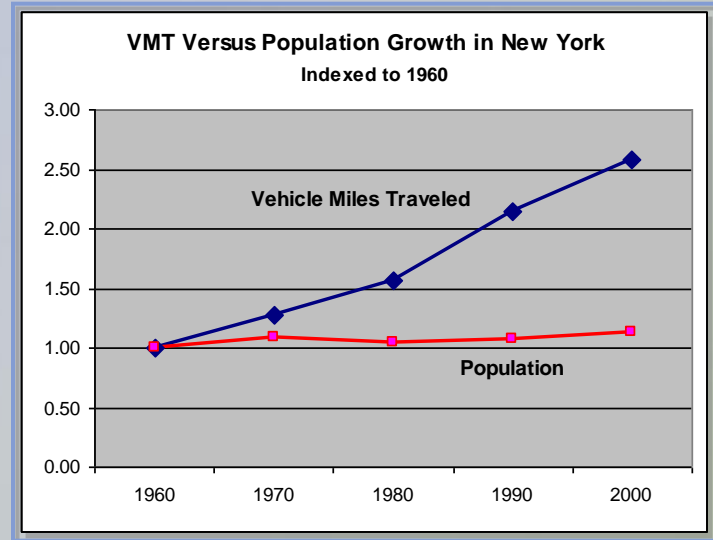> Source: NYS DMV

Traffic Impacts

> **In 2004, the average New Yorker was stuck in traffic for 34 hours. In 2006 this increased to 36 hours, or more than a week of time that could be spent with one's family.**
> Source: NYSDOT

VMT Versus Population Growth in New York
Indexed to 1960

Vehicle Miles Traveled

Population

> **On average, every person in New York traveled nearly 8,000 miles per year in a car or truck in 2000, more than double the average in 1970.**
> Source: NYSDOT

Cost Impacts

➤ **Transportation is the second-highest household cost for the average family after housing, exceeding 19.1 percent of total family spending in 2003.**
  Source: Surface Transportation Policy Project

➤ **In 2005 and 2006, the total cost of traffic accidents in New York was estimated to exceed $15 billion, using average accident costs for state roads.**
  Source: NYSDOT

Cost Impacts

➤ **The life cycle cost for roads built to accommodate housing on one-acre lots can consume more than 50 percent of the property taxes from those homes.**
   Source: NYSDOT

➤ **Between 1996 and 2003 municipal transportation expenditures outside of New York City grew by 30 percent, to $3.1 billion. Transportation costs accounted for 22 percent of total expenditures by towns in 2003.**

   Source: NYSDOT & NYS Comptrollers Office

Environmental Impacts

➤ **Some 85.7 million tons of CO_2 equivalent were emitted from transportation sources in New York in 2006, representing 39 percent of total greenhouse gas emissions for the State.**

 Source: NYS Energy Research & Development Authority

➤ **More than 80 percent of New Yorkers live in counties that do not meet federal air-quality standards.**

 **Source: US Environmental Protection Agency**

Environmental Impacts

New York State consumed 288.1 million barrels of oil in 2006; seventy-two percent of this was used in the transportation sector. Oil use in New York accounted for 4 percent of the national total.

Source: NYS Energy Research & Development Authority

"Oil Jumps Above $100 on Refinery Outage" Associated Press, New York, February 23, 2008

"U.S. crude oil prices hit a record above $139 a barrel" New York Times, June 10, 2008

NYS Urban Area and Population Growth Indexed to 1960
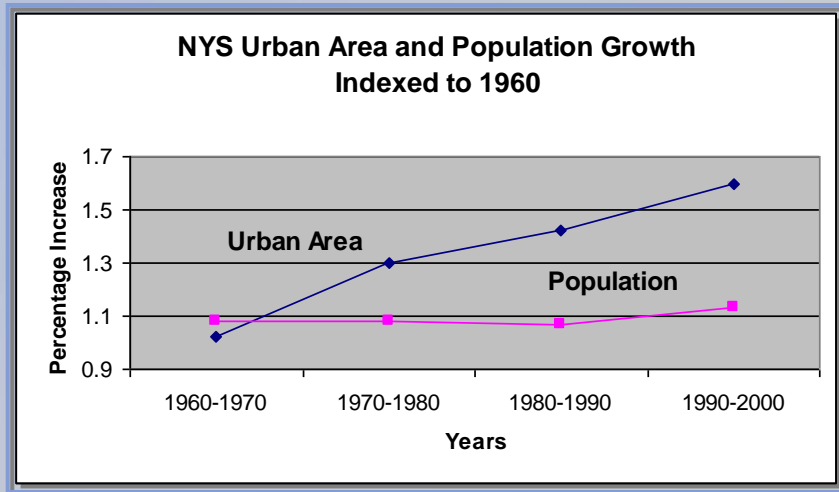
Between 1960 and 2000, the rate of growth in urban land was more than six times the rate of population growth.

Source: U.S. Census & USDA

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Social Impacts

➤ **The average driver spends 17 full days a year behind the wheel; this is more than the average parent spends dressing, bathing and feeding a child, and more than the average American takes for vacation.**

   Source: Surface Transportation Policy Project

➤ **In 1969, about half of U.S. children walked or biked to school. Today, fewer than 15 percent of children walk or bike to school. More than one-third of U.S. adults are obese and 17 percent of young children and adolescents are overweight.**

   Source: Centers for Disease Control and Prevention

Social Impacts

➤ **Traffic congestion is one of the most frequently mentioned factors contributing to aggressive driving.**

Source: AAA Foundation for Traffic Safety

➤ **In December 2005, the White House Conference on Aging ranked transportation options for older Americans to be among the top three priorities facing seniors.**

Source: Metro Magazine August 2006 Paratransit Survey
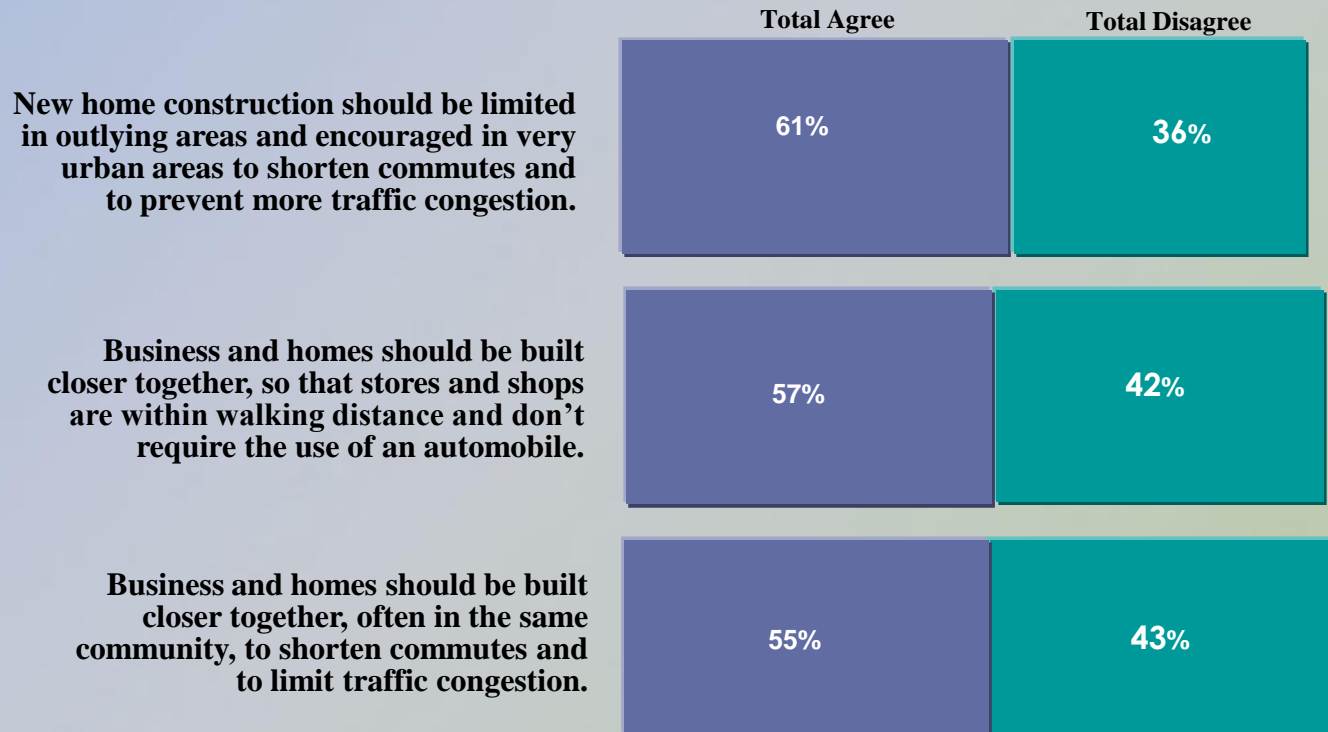
Public Support for Smart Growth

Smart Growth entails change and this change will involve trade-offs affecting many economic, environmental and social interests. Nonetheless, and perhaps because of the manifest impacts stemming from sprawl, the majority of Americans see Smart Growth as a viable way to reduce our traffic problems.

Public Support for Smart Growth

Americans see smarter development patterns as a viable way to reduce traffic congestion and shorten commutes.
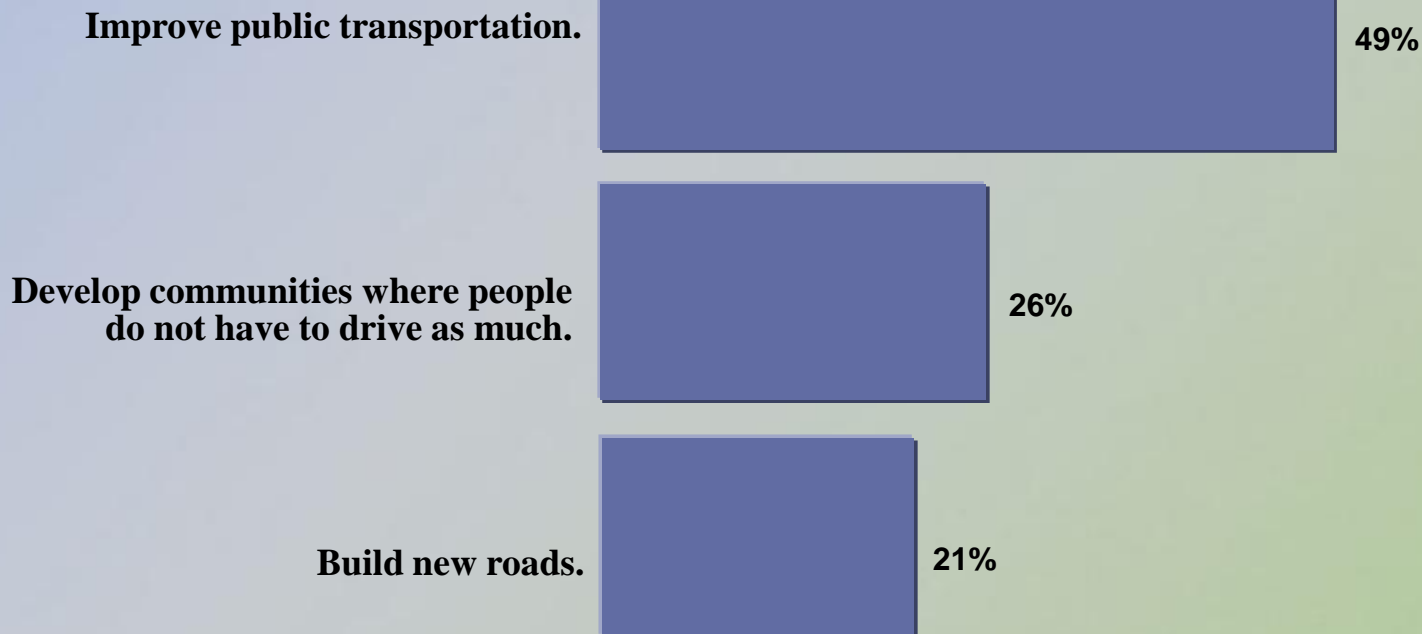
	Total Agree	Total Disagree
New home construction should be limited in outlying areas and encouraged in very urban areas to shorten commutes and to prevent more traffic congestion.	61%	36%
Business and homes should be built closer together, so that stores and shops are within walking distance and don't require the use of an automobile.	57%	42%
Business and homes should be built closer together, often in the same community, to shorten commutes and to limit traffic congestion.	55%	43%

Source: Public Opinion Strategies, National Association of Realtors, 2007

Public Support for Smart Growth

Only 21 percent of Americans believe that building new roads will solve our traffic problems; 75 percent believe that smarter development or improved public transportation are the answers.

Improve public transportation.
49%

Develop communities where people do not have to drive as much.
26%

Build new roads.
21%

Source: Public Opinion Strategies, National Association of Realtors, 2007

Public Support for Smart Growth

Eighty-one percent of Americans want to redevelop older areas rather than build in new areas.

Build New
14%

Refused
1%

Undecided
4%

Redevelop Old
81%
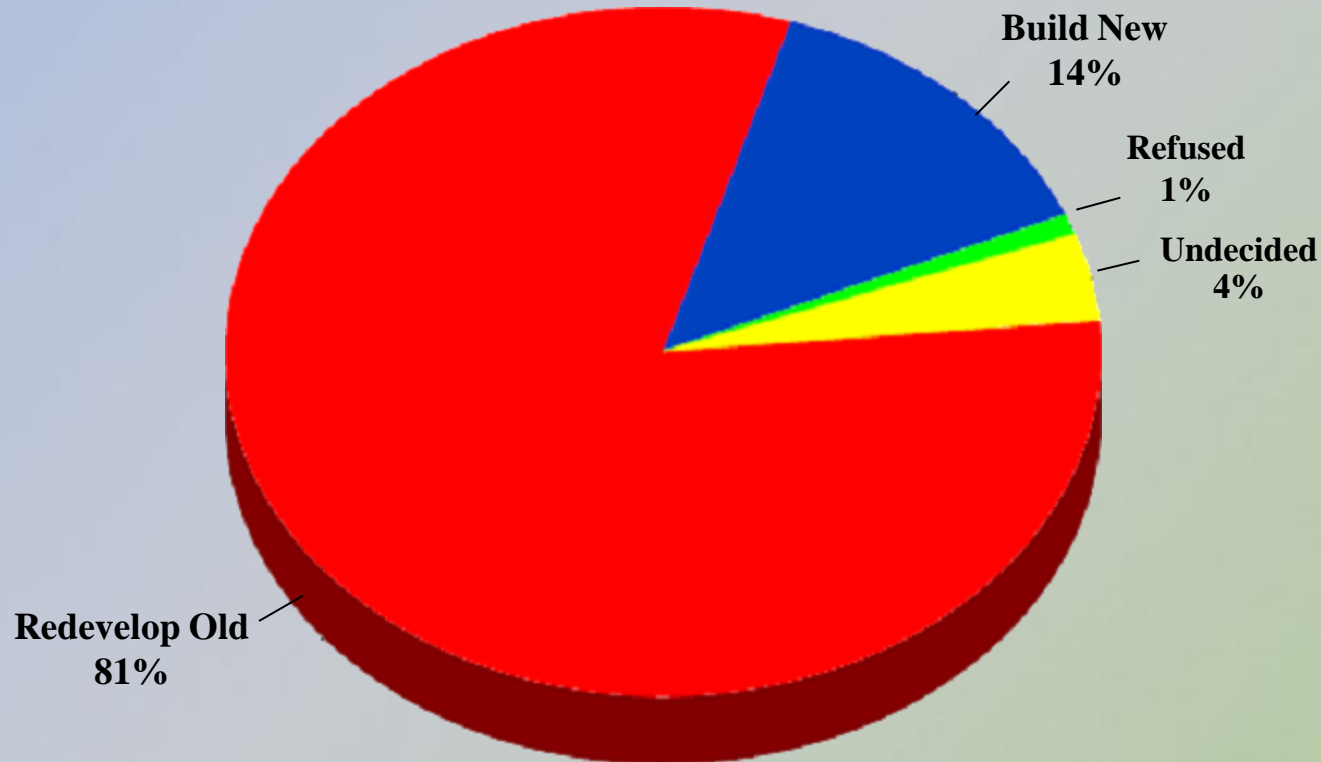
Source: Public Opinion Strategies, National Association of Realtors, 2007

Smart Growth Begins With a Vision

Smart Growth may take decades or even generations to achieve in any community. Persistence and adherence to a clear set of objectives on which a community's growth decisions can be based are required. These objectives may have diverse and complicated dimensions but the essential question is:

"How do you want your community to look and function in the future?"

The Smart Growth Vision Recognizes Five Realities

➤ First, Smart Growth is a no-fault exercise. It's not how we got here but what we do to make it better.

➤ Second, Smart Growth is an ongoing process. It took generations to achieve our current pattern of development. We can restore a more livable environment in less time.

➤ Third, each community is unique. The reality of Smart Growth will vary greatly from urban to suburban to rural communities. They will each have to find their own way.

➤ Fourth, success begins and ends at home. Smart Growth has to be achieved by a community, for the community, largely through its own efforts.

The Smart Growth Vision Recognizes Five Realities

Fifth, and to paraphrase Albert Einstein, we must recognize that "*we can't solve our problems with the same sort of thinking with which we created them.*"

The Smart Growth Vision Recognizes All the Characteristics of the Community

The Vision need not be complex nor detailed but it must recognize the interrelationship among the many characteristics of the community:

➤ Environmental Conditions and Resources

➤ Energy Resources and Uses

➤ Historic, Cultural and Recreational Assets

➤ Educational and Institutional Resources

➤ The Economy

➤ Land Use

➤ Demographic Conditions

➤ Financial Conditions

➤ The Transportation System

➤ External Pressures

# The Smart Growth Vision Depends Upon Broad Community Involvement

- ✓ Businesspeople
- ✓ Not-for-profits
- ✓ School Leaders
- ✓ Historic Preservationists
- ✓ Environmentalists
- ✓ Transport Providers

- ✓ Neighborhood Leaders
- ✓ Cultural Representatives
- ✓ Emergency Responders
- ✓ Minority Representatives
- ✓ Farmers
- ✓ Voters

Smart Growth Vision

These pictures were taken on the same day, at the same time, at the same place … at the sidewalk's end; the photographer simply rotated 180 degrees. Which is the community's vision?
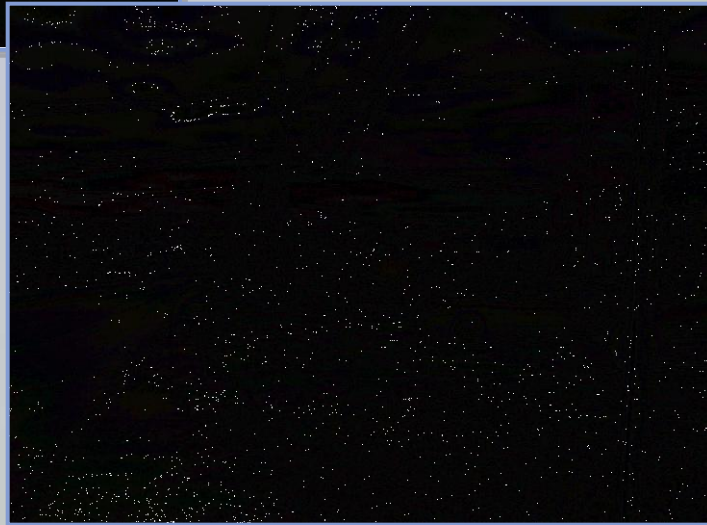
Smart Growth and Transportation Tools

A Smart Community will deploy a wide variety of Smart Growth tools to achieve its Vision. In identifying and applying the tools that will have the greatest influence on the transportation elements of its Vision, two factors will be critical to success:

➤ The community's ability to partner with outside experts, interest groups and developers in integrated land-use and transportation planning, and importantly, in making physical and operational improvements to the transportation system.

➤ The community's use of its own land-use management capabilities to achieve the pattern, density and diversity of uses that characterize Smart Growth.

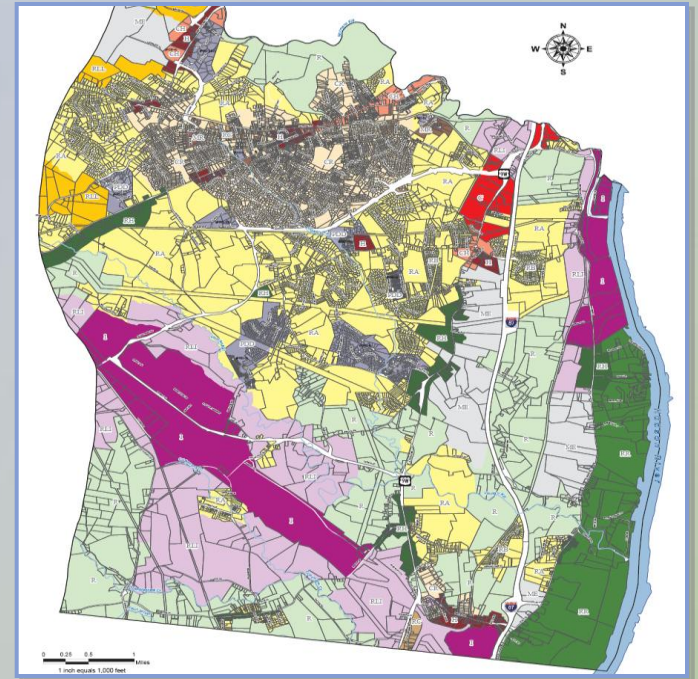# Smart Growth and Transportation Tools: Lean On Outside Experts

➤ **The New York State Department of Transportation**

➤ **Metropolitan Planning Organizations**

➤ **Transit and Para-transit Organizations**

➤ **Regional and County Planning Organizations**

➤ **State agencies with related programs, such as the Division of Housing and Community Renewal "Main Streets" grant program and the Department of State's "Smart Growth Code" training**

➤ **University Programs, such as the Local Transportation Assistance Program**

➤ **Special-interest groups, such as the New York Bicycling Coalition**

Smart Growth and Transportation Tools: Local Actions

➤ **Comprehensive plans**

➤ **Topical and sub-area plans**
- ▪ **Economic development plans**
- ▪ **Farmland preservation plans**
- ▪ **Resource protection plans**
- ▪ **Urban redevelopment plans**
- ▪ **Corridor management plans**
- ▪ **Capital improvement plans**
- ▪ **Bike and pedestrian plans**

➤ **Zoning map**

➤ **Zoning and subdivision ordinances**

➤ **Local transportation system improvements**

➤ **Generic Environmental Impact Statements and State Environmental Quality Reviews**

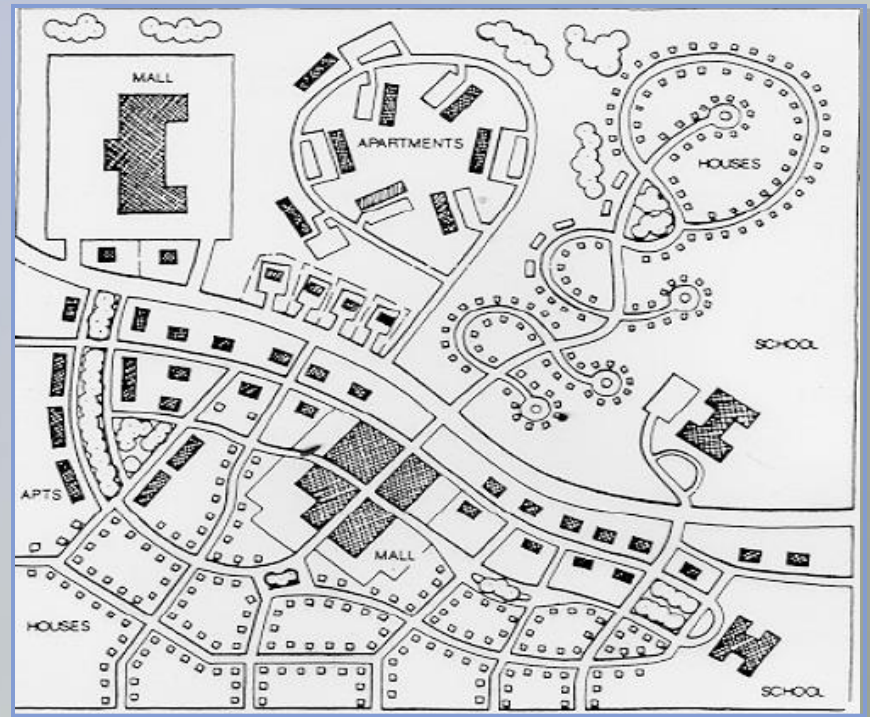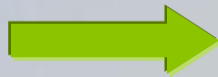➤ **Site plan and subdivision approvals**

Smart Growth and Transportation Tools: Zoning Patterns and Uses

Conventional zoning separates land uses and increases the distance to travel between them.
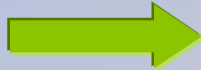
Smart growth zoning mixes land uses, increases densities, and through improved connectivity reduces travel distances.

Zone for high-density, mixed-uses and transit-oriented development **to promote walking and bicycling and to establish conditions in which transit is both viable and self-supporting**.

Smart Growth and Transportation Tools: Zoning and Dimensional Requirements

Traffic accidents are directly linked to the number and density of driveways. Frontage requirements of 100 feet would enable a minimum of 102 driveways per mile versus 56 driveways per mile if frontage requirements were set at 200 feet. *Consider zoning for density and depth together with driveway spacing and design standards*.

Small Lot Sizes and Frontage Requirements Enable the Proliferation of Driveways on Arterials and Collectors

Dimension	Zone	
	Mixed Enterprise	**General Commercial**
Minimum Lot Size	10,000 SF	43,560 SF
Minimum Front Yard	30 SF	100 FT
Min. Highway Frontage	100 FT	100 FT
Maximum Lot Coverage	60%	35%

Smart Growth and Transportation Tools: Connectivity

Promote Connectivity. **As growth occurs traffic problems on the existing road system can increase. Constructing new links between existing roads can provide residents with routing options and allow them to avoid the most heavily traveled roads.**
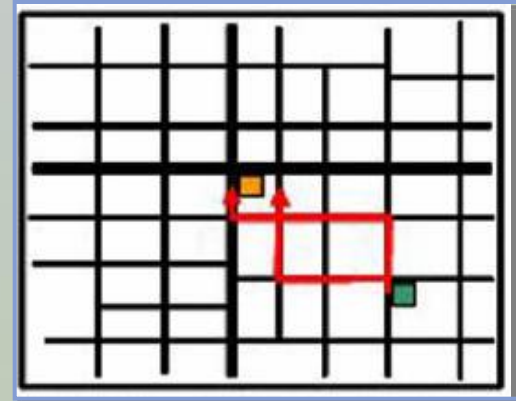

Proposed Road Links
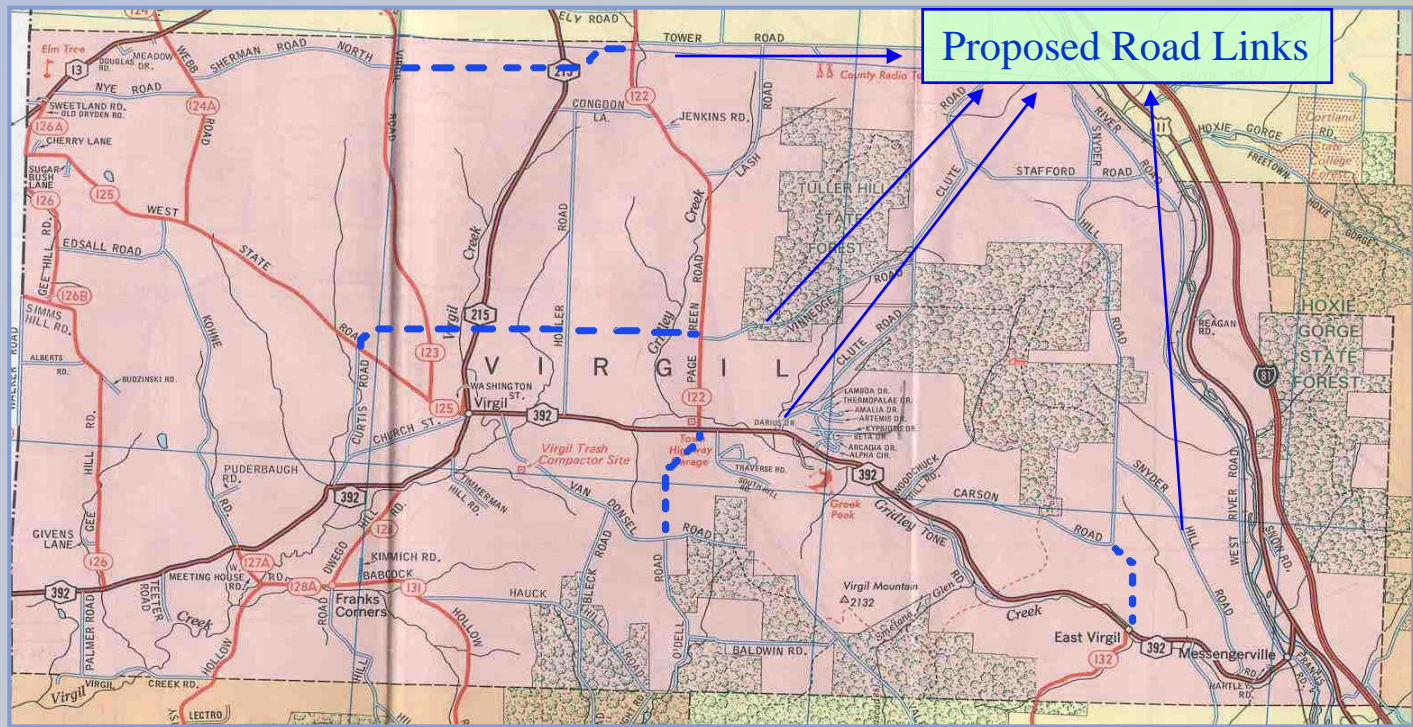
Smart Growth and Transportation Tools: Grids

Establish a grid pattern of connected roads in high-density development areas to promote walkability and to provide multiple routing opportunities and least-distance travel.

Conventional street networks with cul-de-sacs and dead ends create long walking distances and limit routes to different destinations.
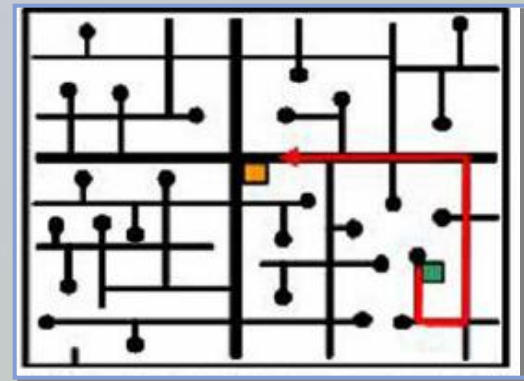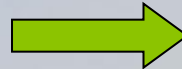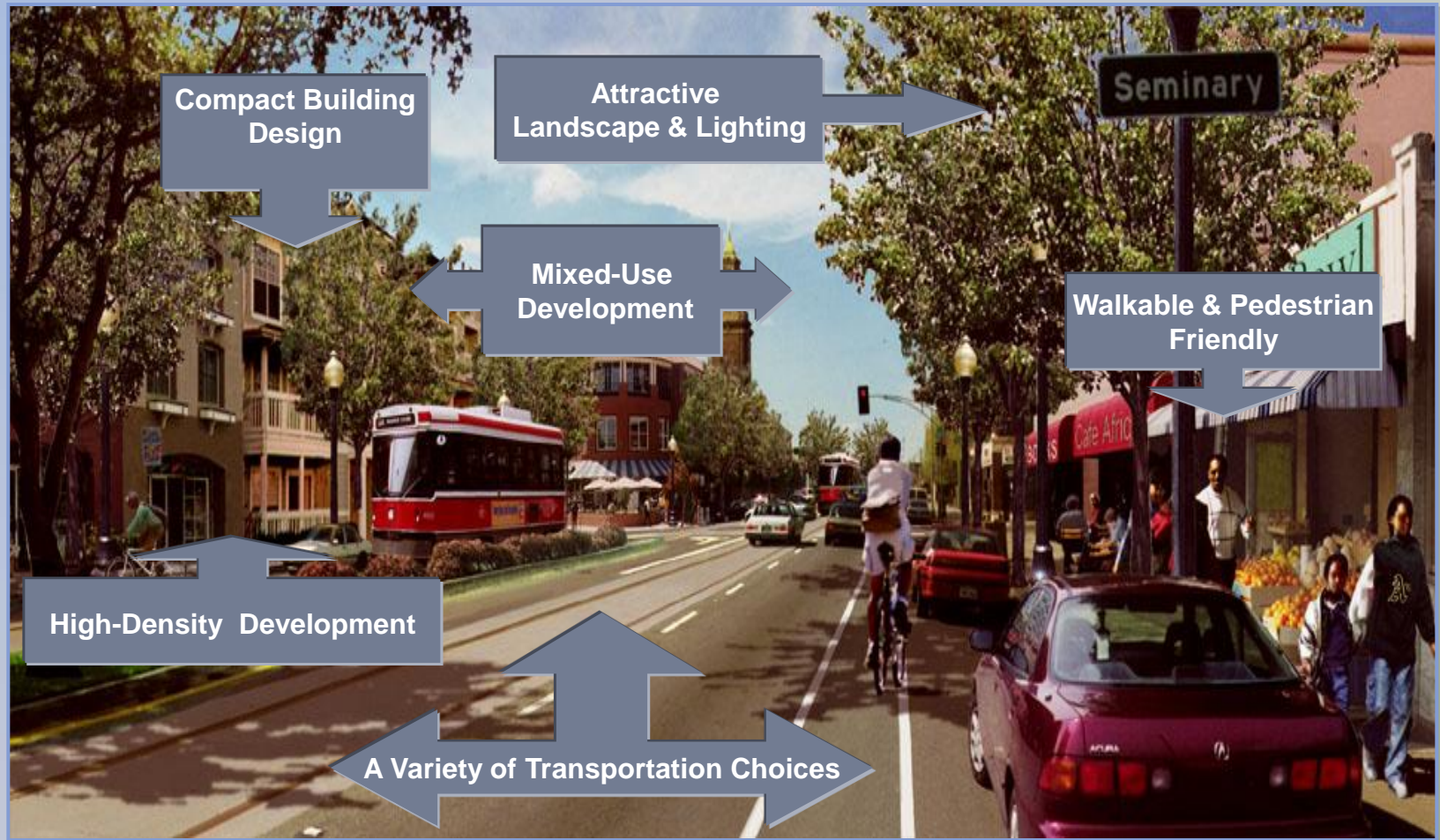

Smart Growth focuses on establishing traditional grids and interconnected road and bike & pedestrian networks

Compact Building Design

Attractive Landscape & Lighting

Mixed-Use Development

Walkable & Pedestrian Friendly

High-Density Development

A Variety of Transportation Choices

Smart Growth Success Stories

Transportation is tied directly, strongly and intimately to many of the characteristics that determine a community's overall quality of life.

It is the community's "Vision," as implemented through its planning, land-use management and investment decisions that determines whether the future transportation system makes a broader and more effective contribution to its *overall* quality of life than the current system.

Success Stories:
Town and Village of Livonia

Identified Problem: Strip commercial and residential developments were identified as a root cause for the decline of the Village of Livonia, N.Y. Livonia in 1998, left.

New Vision: A key element of the combined vision of the Town of Livonia and the Village was to re-establish the Village as the communities' economic and social center.

Tools to Achieve Vision: Aggressive changes in zoning and development management and NYSDOT-supported capital improvements, such as sidewalks and tree planting, have brought the Village closer to achieving its vision. Livonia in 2004, above right.

Success Stories: Town of Virgil

Virgil is a rural town of just under 2,400 residents roughly 35 minutes south of Syracuse in central New York. In 2004 two proposed developments caused residents to be concerned about protecting the rural quality of life they so valued.

The first was a $158-million expansion of the Greek Peak ski area to convert it to a year-around resort with a regional conference center, 200 unit hotel, championship golf course, indoor water park and 800 units of condos and single family homes. The second and more speculative development was a proposed hi-tech industrial park which could provide up to 5,000 high-paying jobs at build-out.

Success Stories: Virgil's Smart Solution

The Town recognized that the magnitude of the developments required a comprehensive approach. It completely revised its zoning map and zoning and subdivision ordinances including the following key elements:

- The Town provided for high density residential use in three relatively small zones. These areas are served by or could easily be linked to existing water and sewer service. And, at build-out their density and location are likely to warrant rural transit and ride-sharing services.

- The Town co-located one of these residential zones with a small commercial zone immediately adjacent to the Greek Peak.   Bike, pedestrian and jitney linkages between these mixed uses can substantially reduce auto usage and will help to create a vibrant neighborhood experience.

- The Town zoned the remainder of land for large-lot residential use but provided significant development incentives for the preservation of critical environmental areas, open space and farmland. Some of the critical environments straddle the most heavily traveled roads, and minimization of development along these roads will preserve safe and efficient travel.

- The Town preserved alignments and right-of-way allowing the interconnection of existing roads in the future; these new connections will provide residents with multiple routing options and allow them to avoid areas with heavy traffic.

Smart Growth Begins and Ends in Your Community
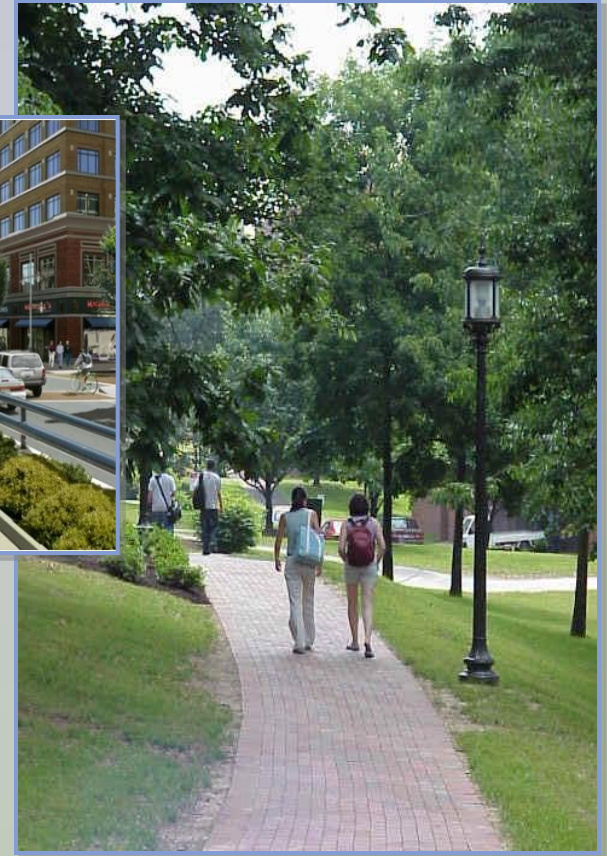
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